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Laryngotracheobronchitis With Loss of Cough Reflex--Report of a Case

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Laryngotracheobronchitis is a serious illness because of its high mortality, but fortunately it is not very common. This case is reported because there was no coughing at any time during the forty-one hour illness even when water or a catheter was introduced into the trachea.

Absence of the cough reflex has been noted in other conditions, but it was first discovered in laryngotracheobronchitis. (1) An infection of the airways below the larynx with a loss of the cough reflex is serious because coughing is the most important method of removing secretions from bronchi, trachea, and larynx.

The mechanism of removal of secretions from the smaller bronchi to the larger, to the trachea and out into the pharynx has been ably described by Jackson and Jackson (2) and will be reviewed briefly here. Drainage of secretions is by the tussive squeeze, the bechic blast and ciliary action. The more viscous the pus or mucus the less effective is the ciliary action. In such cases, the drainage is almost entirely by the tussive squeeze, the process of squeezing the lung by coughing. As the material moves up to the larger bronchi it becomes less viscid and is expelled by the bechic blast. Ciliary action is helpful throughout, but its effectiveness depends upon the viscosity of the material. It is obvious from the above review that any drug which interferes with the cough reflex affects both the tussive squeeze and bechic blast, and any drug which thickens the secretions interferes with the ciliary activity. For that reason, the administration of opium and belladonna derivatives in cough mixtures is strongly advised against by laryngologists (2) wherever there is danger of obstruction in the airway.

Laryngotracheobronchitis is an inflamation of the larynx, trachea and bronchi with toxemia, difficulty in breathing, hoarseness, and usually a croupy cough. Cough may be entirely absent throughout the disease or it may be present at first and disappear later. Jackson and Jackson (1) state further that the secretions are thick, tenacious and often form crusts.

The treatment is to secure rest, air and water in the face of great difficulties. The great danger lies in the formation of crusts or plugs which obstruct the small bronchi and may result in atelectasis and even asphyxia. The air must be moist to the point of saturation to allow the patient to more easily rid himself of the secretions which accumulate. The patient should be kept as quiet as possible without stopping the cough reflex. Transfusion, oxygen, sulfanilamide all appear useful at times, and again may be of no avail. (3)

The mortality rate in the disease is very high. The younger the patient, the higher the mortality. It has been estimated that under the best conditions recovery occurs in not more

than fifty per cent of the cases. (1).

Case Report:—R. L., white boy, age 4½ years.

12-22-39 Visit to home. Patient had been perfectly well until last night when at 11 P. M. he began to have audible breathing. All night he was restless, and breathing became more difficult. No fever, no cough, no one else sick in the house, never had croup before. No diphtheria toxoid.

Boy was sitting quietly in mother's lap. Pale, dyspneic with retraction of suprasternal and epigastric regions. Fever 99. Physical examination neg., except for loud transmitted breath sounds in chest, and mildly injected tonsils and pharynx. Tonsils were not greatly enlarged.

Parents were advised to take the child to the hospital, but they refused to do so. A culture was taken from the throat and sulfanilamide grs. V every 4 hours ordered.

At noon, the child was in the hospital taken there after he had "choked and turned blue." At 1:30 P. M. a tracheotomy was done and his breathing was easier. 20,000 units of diphtheria antitoxin were given, and a culture taken from the tracheotomy tube.

At 8 P. M., the tube was removed, cleaned and replaced with some improvement in his breathing. The first culture was reported as showing pneumococcus to be the predominating organism. He had a fairly restful night. Sulfanilamide was stopped and sulfapyridine started when the culture was reported.

12-23-39 Entire tube removed, cleaned, and replaced. Highest temperature was 101 following tracheotomy yesterday. Temp. this A. M. 99. Culture from tracheotomy tube taken yesterday, reported pneumococcic this A. M. by a different laboratory.

At 1 P. M. the child was having considerable difficulty in getting his breath even though the tube was perfectly patent. No mucus or pus was coughed up or could be withdrawn by suction. In the trachea, dark red, thick material resembling partially dried blood could be seen.

Water introduced into the trachea did not result in cough. A catheter attached to the suction machine and passed far into the trachea resulted in a sort of muffled explosion cough. It was obvious that bronchoscopy was his only chance, but he expired before that could be done.

Forty-one hours elapsed from the time he was first noticed to be ill, to his death. At no time was his temperature over 101, and that was following the tracheotomy. There was no effective coughing at any time.

Comment: Laryngotracheobronchitis is a serious disease with a very high mortality even when every factor is in the patient's favor. This case illustrated how very important coughing is particularly where the airways are infected themselves. In addition to the treatment outlined above, bronchoscopy is strongly indicated where there is no cough, otherwise the patient will asphyxiate from accumulation of secretions. (1).

The question, why did this patient fail to cough, cannot be answered satisfactorily. It was not due to medication or lack of medication because no sedatives were given at any time, and he had no cough before sulfanilamide was started. A croup kettle with menthol crystals in it was boiling continuously within six hours after the tracheotomy.

Toxemia combined with low temperature seemed to indicate diphtheria, but even with the severe toxicity of diphtheria the cough reflex is not often lost.

Jackson (4) states that a bronchoscope upon being introduced into a larger bronchus in an unanesthetized patient will cause cough. If it remains there a few minutes the cough ceases. If the tube is withdrawn and reinserted after a few minutes the patient will cough again as he did originally. It is conceivable that the secretions in this patient appeared almost simultaneously from his larynx to his smaller bronchi. The boy may have coughed once or twice, but the secretions continued to accumulate and dry so rapidly that the cough reflex was lost much as it is when the bronchoscope is left in situ for a few minutes. Jackson (4) states that if a foreign body moves to an area of mucosa previously untouched, or if the foreign body shifts so that part of it touches an area of mucosa previously untouched, violent coughing is set up. Unless all of the mucosa of the airway were involved at the same time, it would seem in-

evitable that cough would occur as the infection spread. In the light of our present knowledge, no definite explanation has been found for loss of cough reflex.

SUMMARY

1. Laryngotracheobronchitis is briefly discussed.

2. A fatal case caused by the pneumococcus with loss of cough reflex is reported.

3. The importance of cough, and its mechanism are reviewed.

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Gunshot Perforation of Spleen and Diaphragm

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Injuries of the diaphragm complicating thoracic wounds and, less often, abdominal wounds, especially in war surgery, are well known. Green-Armytage[1], Gruber[2], Bryan[3], and Ferron[4] have reported numerous cases of diaphragatic wounds, all associated with thoracic or thoracico-abdominal wounds. Schonbauer[5] has reported a case of tension pneumothorax after injury to the diaphragm, sustained following a fall on the prong of a pitchfolk which pierced the abdomen. The rarity of diaphragmatic injuries complicating abdominal wounds, at least in civil surgery, would seem to warrant the report of a case.

W. H., unit No. 105934, Roper Hospital. The patient was a colored boy, aged 11 years, admitted to hospital on August 29, 1939. Two or three hours before admission, he was shot in the adbomen with a bullet from a .22 rifle at a range of four feet. He had no vomiting and no hemoptysis. No further history was available. He arrived at the hospital about three hours after receipt of the injury. On examination T 98.6, P 68, R 32, BP 120/65. The patient was fairly well nourished and developed, conscious and rational, and was groaning almost continuously. No cough or dyspnoea. His skin felt cold, but he was not perspiring. Mucous membranes were of fair color. The pulse was slow and very weak. The chest was symmetrical, with good and equal expansion on both sides. Percussion and auscultation were normal throughout. In the epigastrium just to the right of the midline there was a small round bullet wound of entrance. There was no wound of exit. A bullet was palpable immediately beneath the skin of the thorax on the left very low in the posterior axillary line. No surrounding subcutaneous emphysema. The abdomen was symmetrical, moderately distended, and moved poorly with respirations. There was moderate tenderness and spasm throughout. No masses palpable. No obliteration of liver dulness. The liver, spleen and kidneys were not palpable. The genitalia and extremities were negative.

It was apparent that he had generalized peritoneal irritation, and he was immediately prepared for operation. Before operation he vomited about 90 cc of fluid which appeared to contain old blood; and a Levine duodenal

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tube was passed and the stomach was emptied of 75 cc more of similar fluid.

At operation, laparotomy was performed under nitrous oxide induction — ether anesthesia. The abdomen was opened through an upper left paramedian incision. On opening the peritoneum, considerable fresh bloody fluid escaped. No air or intestinal contents escaped, and the peritoneum was normal. Immediately apparent was a large hematoma in the wall of the transverse colon and its adjacent mesentery, where the bullet had glazed the serosa of the superior surface of the bowel; there was no perforation. The serosal wound was inverted with a fine plain catgut suture. The stomach was normal without perforation. Fresh blood was escaping continuously fairly profusely, and appeared to be coming from the vessels in the gastro-hepatic ligament. This presented no injury, however the blood could hardly be mopped up with large gauze packs rapidly enough to allow adequate vision. Then in order to deliver and examine the spleen, its pedicle was held and compressed between the fingers and the bleeding immediately ceased. The spleen was then delivered; on its superior surface there was a large stellate laceration; on its inferior surface at the hilus there was a large more circumscribed laceration involving the large blood vessels at their point of entrance.

After extending downward a little the incision to allow adequate exposure, the spleen was removed after ligating its pedicle with fine plain catgut transfixion sutures. After removal of the spleen, no further bleeding occurred. The bullet wound of exit from the abdomen was found in the left diaphragm laterally near its costal attachment. The wound was about 8 mm in diameter, and was sucking air with each respiration. This hole was closed with two fine plain catgut mattress sutures. Further exploration revealed no evidence of other injury in the abdominal cavity. The abdominal wound was closed in layers without drainage with a continuous fine plain catgut in the peritoneum, and interrupted fine black silk sutures in the fascia, subcutaneous tissues and skin. The bullet wound of entrance in the skin of the abdominal wall was excised, and the defect closed with a continuous silk suture. Soon after the operation began, the patient went into profound shock, and was immediately given 400 cc of 5% glucose and 400 cc of citrated blood intravenously, with recovery from the shock.

Following operation, his course was not at first entirely smooth. Immediately after operation he was moderately dyspnoeic, without cyanosis, and there were physical signs of a complete pneumothorax on the left, with displacement of the trachea and the heart to the right. This was confirmed the following day by an X-ray film of the chest, and there was no fluid in the left thorax at this time. On the second post-operative day, because of continued dyspnoea, low grade fever and the development of a pleuro pericardial friction rub on the left, a thoracentesis on the left was done, 300 cc of old dark blood and 300 cc of air being removed. Following this, another chest plate was made, and this showed a small amount of fluid at the left base and very little remaining pneumothorax. On the third post-operative day, another thoracentesis was done, with the removal of 100 cc of old bloody fluid. On this day also, under local anesthesia, the bullet was removed from the subcutaneous tissues of the left thorax. There was no gross infection about the bullet, and there was no demonstrable connection between the cavity, in which lay the bullet, and the pleural cavity. All cultures of the pleural fluid were sterile. On the fourth postoperative day the temperature, pulse, and respirations returned to normal. Thereafter his recovery was rapid and uneventful except for a low grade fever for several days, which fever was thought to be due to a very mild serum sickness following the administration of 1500 units of tetanus antitoxin and 2000 units of gas gangrene antitoxin on the first post-operaative day. All wounds healed per primam. During his convalescence, he was given two transfusions totalling 850 cc of citrated blood, for moderate secondary anaemia. He was discharged on the 14th post-operative day, and has since remained well.

DISCUSSION

The interesting aspects of this case are the complications; The immediate pneumothorax accompanying operation, and the delayed

hemothorax. There was no evidence of any lung injury prior to operation; that is, he had no hemoptysis, there were no signs of air or fluid in the pleural cavity, and there was no subcutaneous emphysema about the bullet in the chest wall. In view of the above facts, it seems evident that the bullet traversed only the costophrenic sinus of the pleural cavity, that the pneumothorax developed only upon access of air to the peritoneal cavity through the laparotomy wound, and that the hemothorax resulted from delayed hemorrhage from the intercostal vessels.

SUMMARY

There is presented an interesting case of gunshot perforation of the spleen and left diaphragm complicated by severe hemorrhage from the spleen, and postoperatively by a left hemopneumothorax of unusual origin.

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An Historical Sketch of the Medical Society of South Carolina

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Gentlemen of the Medical Society of South Carolina, and Distinguished Guests:

We are gathered here this evening to celebrate the one hundred and fiftieth anniversary of the founding of this Society. Before beginning an historical sketch, I want to present to you our oldest member and past-president. He and his father have been engaged in medical activities in this community for one hundred and two successive years. I present to you Dr. J. Creighton Mitchell.

The honor of serving you as President for the past two years has made me deeply mindful of the responsibilities of the office, and equally appreciative of the trust you have so graciously confided in me.

At this moment I find myself a victim of an ancient custom of the Society. From its origin it has been the custom of the retiring president to make an address. By decree this has been mandatory for a hundred years. Many and varied have been the subjects, but for quite a period they were on the weather and prevailing diseases of the time. I now, upon retiring, fulfill the last function imposed upon me by the office.

The preamble to the meeting of organization, December 24, 1789, is quaint in its language and so expressive of the ideals of medicine, then and now, that it has stood the test of time, and is today the foundation upon which organized medicine stands in this modern and rapidly changing era. I quote:

"At a meeting of several gentlemen of the Faculty of Physic in Charleston, Drs. Peter Fayssoux, Alexander Baron and David Ramsay were desired to act as a Committee to consider such matters as will tend to improve the science of medicine, promote liberality in the profession, and harmony among the practitioners in this city, and to report a plan for the above purpose to the following gentlemen, physicians in Charleston, prior to the year 1783."

Presidential Address at Sesquicentennial Celebration of the Medical Society of South Carolina (Charleston County), Charleston, S. C., December 5, 1939.

Dr. Isaac Chandler
Dr. Tucker Harris
Dr. Andrew Turnbull
Dr. George Logan
Dr. John Budd
Dr. Robert Wilson
Dr. George Robinson
Dr. Elisha Pointsette
Dr. James Lynah
Dr. George Carter
Dr. Richard Savage

Dr. Savage died just prior to the meeting of organization.

At the time there were but three other State Medical Societies in America: 1. New Jersey State Medical Association, organized 1766. 2. Massachusetts Medical Society, organized 1781. 3. Delaware Medical Society, organized February 3rd 1789. College of Physicians, Philadelphia, 1787 and the New Haven Medical Society are older but are not State Societies.

At Dr. Peter Fayssoux's residence, the northeast corner of Tradd and what is now Legare Street, these notable gentlemen gathered to organize a society which was to serve Charleston, and in a measure the nation, for many generations.

A charter was applied for as the College of Physicians; this was refused, but on May 10th 1794, a charter was issued in the name of the Medical Society of South Carolina, which charter remained unchanged until March 1st 1923.

The meetings were at first held alternately at the homes of the various members, but as it grew, larger accommodations were needed, consequently we see notations of meetings at Harris' Tavern and Williams' Coffee House. In 1806 the first permanent quarters were obtained, a northwest room on the second floor of the present Court House. Later the northeast room on the second floor of the Medical College on Queen Street became the library and meeting place. When Roper Hospital was built in 1852 the Society secured permanent quarters there. Roper Hospital has been its permanent address ever since, except for two years immediately following the War between the States when meetings were held over Panknin's Drug Store on Meeting Street.

We have inherited from the Founders a profound respect for the dignity and honor of our calling and a strict code of ethics or behavior, one to the other. To quote from the code of ethics of 1810: "The medical gentlemen of this Society are considered as the guardians of each others professional honor."

It seems that at times there was laxity in observance of this code, as may be gleaned from an address by Dr. T. Y. Simons in 1835. Again I quote: "Politics has never been allowed to exercise any influence upon the Medical Society. It is time that wisdom should preside over our temples of science, and that rivals as collaborators in the cause of intellectual improvement, should endeavor to excel each other in usefullness. Competition thus regulated results in conferring benefits on mankind. The noble and enlarged mind emulates the excellencies of its competitors, and endeavors to equal them in knowledge and virtue, while the groveling mind seeks elevation by detraction and abuse."

An early provision of the code was to expel any member who fought a duel over a professional difference. The minutes do not record a duel ever having taken place. As most duels were fought over questions of honor, I hope that our predecessors were not given to dismissing such questions on the principle—"discretion is the better part of valor."

Soon after its origin a Dispensary was established for the sick poor, the younger members volunteering as attending physicians while the older physicians acted as consultants. The public acknowledged with gratitude this generous effort. In 1810 Alexander Shirra made a bequest for the establishment of a dispensary by the Society.

Immediately after organization, city authorities applied to the Society for guidance in matters of public health. In 1794 one of the first quarantine of ships was established at the earnest behest of the Society.

In 1795 an able outline of hygiene and sanitation was submitted to Council suggesting "that low lots, creeks, etc., not be filled with decaying and putrefying materials as was the custom; that trees be planted to purify the air; that land be purchased beyond city limits for burial grounds, extramural interments; that pure water from the surrounding country be brought in for potable and culinary uses."

Council continued to consult the Society on health problems and in 1801 it became the Board of Health.

We today may well marvel at the accomplishments of those early physicians who had so little science, as we know it, to guide them. They were essentially clinicians with remarkable powers of observation. Changes of the seasons and of the weather were observed to be associated with certain diseases, hence an exhaustive study and recording of the same was undertaken by Dr. John Lining prior to the birth of this Society, and later so assiduously carried on by Dr. Robert Wilson and others. Diphtheria was regarded as a blood disease, while typhoid fever, malaria and yellow fever were thought to be miasmatic in origin, resulting from contamination of the air from low damp places or decaying vegetable matter—a noxious effluvium. Flies and mosquitoes were not yet suspected as carriers of disease—bacteria not known.

It seems that the early members gained a national and international reputation, particularly on yellow fever. There are numerous records where the opinion on medical matters was requested from distant places, the most noteworthy of which was in 1821 when the Marquis Fourgue sent with his compliments a copy of his work on yellow fever requesting the Society to submit its criticism.

The efforts and energies of the Founders were not all confined to clinical medicine. Botany was then an important branch of the science and received its full share of attention. The shining contributions in this field were by Dr. Alexander Garden who ante-dated the Society; the establishment in 1805 of a botanical garden of the highest order, and later, 1863, a publication, "Resources of Southern Fields and Forests"—by Dr. Francis Peyre Porcher. This classic, born of a war necessity, is today found in the larger libraries of this country and Europe.

Many are the interesting characters whose names have adorned the roster of this organization, but neither time nor space permits me to indulge in the delightful recitation of their achievements. To correct an error in the minutes, I shall mention but one: Dr. David Ramsay, author of important medical publications, historian, legislator. The minutes state that he had the peculiar honor of being the first graduate of the first medical school in America, the then College of Philadelphia, now the University of Pennsylvania. A personal communication to me from the Dean of the University states that the first class graduated in 1768 and that John Archer was the first name on the class roll. Dr. Ramsay graduated in 1773 with the degree of Bachelor of Physic, a degree conferred up to the time of the Revolution. He received from his Alma Mater an honorary degree of Doctor of Medicine in 1780 for conspicuous service in the Continental Army.

A child of the early maturity of the Society was the Medical College of South Carolina, established in 1824. Well are we acquainted with the early success of the school. The Society appointed the professors, examined the candidates for graduation and conferred the degree of Doctor of Medicine. As early as 1818 this Society and the Columbia Medical Society examined all applicants for a license to practice. In spite of the schisms, beginning in 1831, which split asunder the harmony between the College and the Society, we are justly proud of the child of its youth which has grown old with it.

While somewhat advanced in years, a second offspring appeared when in 1852 Roper Hospital was built. This was made possible by the beneficence of Colonel Thomas Roper who directed in his will that this Society, with funds he bequeathed to it, erect, maintain, and regulate a hospital for the poor sick of Charleston, regardless of complexion, religion, or nationality.

That this trust has been sacredly guarded and faithfully administered, no one can question. Many have been the difficulties, many the adversities, but through good judgment, hard work and sacrifice the present Roper Hospital stands as a monument to the efforts of the Society. There is no individual present to whom this more aptly applies than to the chairman of the building committee of the present hospital: Dr. Robert S. Cathcart.

Adversities have come, as in any long life, and have left their records. Minor ones, as differences between the members have always

been adjusted in a most honorable and democratic manner.

The number one tragedy of this nation, the War between the States, was likewise the major tragedy of the Society. The members responded to the call to the colors and served with distinction the cause they believed in. It was responsible for the only suspension of activities recorded — closed from March 1st 1862 to September 6th 1865. At the end of the War a reckoning of its losses showed many volumes of the valuable old library were missing. However, some of these were later returned by the Federal authorities. A miniature of Dr. Boerhaave, the celebrated Dutch physician and teacher, presented in 1815 by Dr. Thomas Lining, grandson of Dr. John Lining; and a portrait of Dr. John Hunter, celebrated English surgeon, presented in 1854 by Mr. Thomas Waring, have been lost, just how or when nobody knows.

The destruction of the old Roper Hospital, 9:50 p. m., on August 31st 1886 by an earthquake marks another tragedy in the life of the Society. This was the beginning of a long and bitter difference between the authorities of the city government and the Society. It was amicably settled when the Society took over on May 21st 1904 the city hospital and built the present Roper Hospital which opened February 19th 1906. The anxieties were not yet over for a long and protracted law suit against the Society, growing out of the building contract, continued to be of annoyance until its settlement in favor of the Society on February 2nd 1914.

I must pause to pay homage to a few of the illustrious sons, whom actuated by humanitarianism, put aside their private interests and responded to calls of distress from distant communities. The ravages of yellow fever in Brunswick, Ga., 1873; Fernandina, Fla., 1877; Memphis, Tenn., 1878, and Vera Cruz in 1898, so depleted the populations and got beyond local control that calls for medical aid were broadcast. At personal sacrifice these calls of distress were answered by Drs. T. Grange Simons, Joseph Yates, Peter Gourdin de-Saussure, and Barnard E. Baker.

To improve the science, promote liberality and harmony in the profession is in the preamble of organization. On July 1st 1841 the Society entertained a motion to "call the physicians of the State in convention in Columbia, December next for the purpose of organizing a State Medical Society." For some reason this was deferred, discussed again in 1844 when it was passed. However, it was not until September 1st 1847 that a definite move was made to invite the physicians of the State to Charleston in February, 1848 to organize the South Carolina Medical Association, and at which time it came into being with James Moultrie of Charleston the first president.

The interests and efforts in organized medicine were not limited to county or state. March 1st 1847 the Society elected six delegates to the organization meeting of the American Medical Association in Philadelphia. They were Drs. Samuel Henry Dickson, James Moultrie, John Bellinger, T. Y. Simons, William T. Wragg, and James P. Jervey. The deliberations of this national body have been presided over by two of the members of this Society: Dr. James Moultrie as its fifth president when it met in Charleston in 1850, and more recently, 1936, by Dr. Kenneth M. Lynch, vice-president, acting as president.

There is ample evidence that the science and art of surgery has been advanced by members of this Society. As early as 1808 the spleen was removed by Dr. Joseph Glover. In 1816 Dr. John King, in a case of extra-uterine pregnancy, cut through the vaginal walls and delivered the baby with forceps, mother and baby surviving. In 1847 Dr. William T. Wragg reported that he had used deer sinew for ligatures for the past ten years. It is possible that Dr. John Bellinger preceded him by two years (1835) in the use of animal tissue for such purpose. Dr. James McF. Gaston in 1859 successfully performed intestinal anastomosis by uniting portions of severed gut protruding through a wound in the abdominal wall. The credit for the first laparotomy for the purpose of resecting the intestine and restoring its continuity goes to Dr. R. A. Kinloch. The case was reported in 1867. He also was the first surgeon to suture perforations of the intestine from gunshot wound. This was done in 1882. Dr. Manning Simons reported a successful operation in 1878 for imperforate anus.

Dr. Francis L. Parker was the first surgeon in the United States to obtain successful reunion of a large nerve by suturing, and also the successful transplantation of the conjunctiva of the rabbit to the human eye. These cases were reported in 1881 and 1883.

From its origin one hundred fifty years ago, the Society has enjoyed the confidence of the community, not only as its leader in health matters, but in a material way as well. Twenty-four bequests have been left to the Society for Roper Hospital and twelve beds endowed for the needy poor. There are other intended bequests for the future that are known. Such evidence of public confidence in its purpose and integrity is surely an incentive to jealously guard its heritage and a stimulus to better where and whenever possible that which has been transmitted by its noble predecessors.

Should a motto ever be adopted I think it should be—"Excellsior Semper Excellsior."

"Time marches on." The Society has seen medicine develop from an art to a science; it has witnessed more change and progress than has occurred during any other era in the annals of the healing art.

In spite of the vast changes, the commercialization that has swept the world, the science and this Society with it, has preserved intact the lofty ideals and honor inherited from a distant past. What the future holds for medicine no one knows. I think with certainty that should socialized medicine come, it will be but a dreadfully short time before medicine, as we know it, will be but a corpse, its soul having escaped to a political inferno where idealism, honor, sacrifice are but strangers in a wilderness.

Come what may, an abiding faith in the principles underlying the practice of medicine and the examples of an illustrious past, will pilot us through the clouds and mists of today into the sunshine of tomorrow.

Spontaneous Osteomyelitis of the Skull

NORMAN O. EADDY, M. D., SUMTER, S. C.

Although I am an eye, ear, nose, and throat specialist, I come to you as a former general practitioner desirous of speaking, particularly, to the only indispensible element of any system of medical practice, i. e., the general practitioner. With them, especially, I wish to consider for about five minutes osteomyelitis of the skull bones.

This term is used to express virtually any pathological process seated in the diploe of the skull bones.

Historically, examination of paleolithic skulls has revealed trephine wounds (5), probably done to let out devils which were, presumably, causing headache. The treatment is still sometimes good.

P. Pott first described osteomyelitis of the skull in 1768 (11). He thought trauma always responsible. von Bergmann, in 1900, first suggested the metastatic bacterial theory as a cause. (11)

There are some interesting facts about the incidence of this condition, especially if we bear in mind that we are not considering mastoiditis. Osteomyelitis is rarer in the flat than in long bones, the ratio being about 1 to 6 (8). Of 1,782 osteomyelitis cases in general, only ten cases of skull osteo were found (11); in another series of 337 cases, only 17 skull cases were found (11). Nearly all of these skull cases were due to a spreading sinus infection, usually in the frontal sinus.

Most of the cases occur in children because then the diploe is thicker and more vascular than in adults.

The etiology involves the usual three factors of the resistance of the host, the virulence and number of infecting organisms, and trauma. The normal anatomy creates an unusual fourth etiological factor. Flat bones consist of a middle vascular layer termed diploe which is

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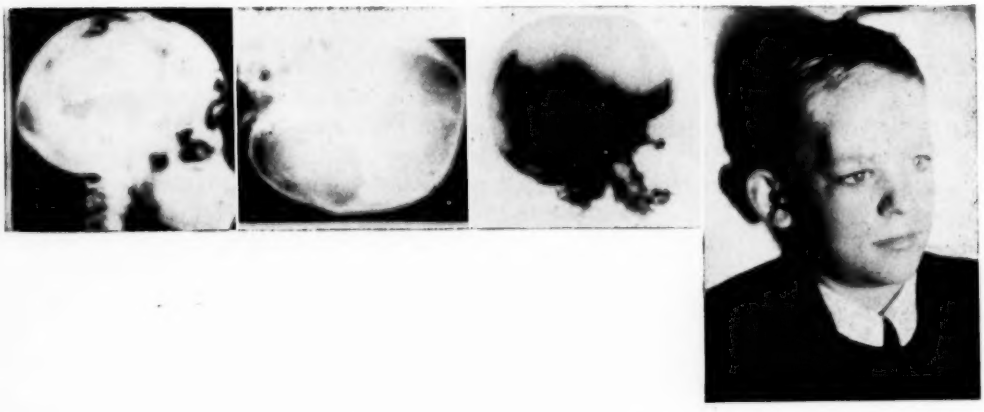

ideal for the growth of germs, which layer is protected by a hard inner and outer table of bone. This diploe borders especially on the frontal sinus, inviting infection from there.

Fortunately, in children, each skull bone is a rather definite individual structure in that the periosteum dips down into the suture lines, separating the bones. This helps limit the spread of the condition. (1)

One duty of the anterior lobe of the pituitary gland is to control the development of the diploe. Overactivity leads to large, thin-walled, vascular cells in the diploe, making this area easier then for germs to conquer (2), and might be considered a sixth etiological factor.

The causative bacteria is almost always the staphylococcus aureus (S. pyogenes aureus), regardless of whether the case be one of extension, metastasis, or primary (11). Rarely, other staphylococci, streptococci, pneumococci, the tubercle bacillus, the treponema pallidum, actinomycoses, blood dyscrasia, or necrotic, infected tumors are responsible (11).

In addition to the direct introduction of infection in open wounds, trauma may excite this disease entity without breaking the scalp surface or that of any of the underlying tissues. Such cases are termed "primary" ("spontaneous") and this is probably the "modus operandi" of the infection acquired by the case to be presented.

The symptomatology is usually far behind the pathology. Extensive destruction of bone may precede the onset of symptoms drawing attention to the skull. In the primary ("spontaneous") cases there is usually a history of a bump or blow on the skull, without abrasion. After the lapse of an indefinite period, there is more or less malaise, headache, fever, tachycardia, and tenderness during which time a puffy mass develops. This is the "Pott's Puffy Tumor" of old Percival Pott.

The metastatic cases are similar to the above except that there is no history of trauma and a focal infection can usually be located.

Cases secondary to penetrating trauma and sinusitis can hardly be missed.

X-ray examination is usually valueless until seven to ten days pass.

The differential diagnosis consists mostly in the exclusion of tumors and subperiosteal pathology of scurvy, etc., and should not prove difficult.

The prognosis, as a rule, is fairly good if treatment is instituted early.

The main complications consist of spread of the infection to the meninges, cerebro-spinal fluid, blood, and brain. Metastasis may occur into any of the bones of the body.

Treatment consists principally of drainage and removal of as much infected bone as is possible. There are two methods of procedure. One is to start in the infected area and remove necrotic material until surrounding sound bone is reached. The second is to bore a series of holes in the good bone, around the involved area, connect these holes with a gigli saw, and remove the entire mass. This supposedly lessens the danger of surgically transmitting the infection from involved to uninvolved diploe. The removed mass of bone may be boiled and returned to its normal habitat.

(PHOTOGRAPH NO. 1 (10)). The choice between the two methods must be decided in each individual case. I should prefer the first if the case were not very virulent and the second if it were.

In either event a massive amount of skull bone may be removed without affecting the skull contour. (PHOTOGRAPHS NO. 2 and NO. 3 (9)). The patient in case number 3 wore an aluminum lining in his hat. That was his only protection. The normal intracranial pressure will maintain the curvature of the skull.

Vessels to the diploe pass through the dura and the periosteum so be careful not to strip up these coverings unnecessarily.

The usual adjuncts of repeated, small, blood transfusions, removal of foci of infection, treatment of any associated condition, rest, nourishing diet, and, in appropriate cases, sulfanilamide should be used. Asparagin bacteriophage may be of help. It is made by the New York Post-graduate Hospital and, to prepare it, they must be informed of the exact etiological bacterial agent. (8). Iron and ammonium citrate, infrared light rays, vitamin C, and massage may be indicated.

The case to be presented today is that of H. S., a twelve year old, white male, first seen June 24, 1938, complaining of severe headaches and a swelling of the right eyelids and right side of frontal part of the head.

The illness, possibly had its incipiency in the patient's being struck in the left orbital region by a homemade baseball May 18, 1938, approximately seven weeks before seeing me. The lids, etc., of the left eye became discolored and swelled as is usual in such cases, but were normal after a few days. There were no apparent after-effects nor did the patient note any disturbance of vision. Apparently, the whole affair, at that time, was going to prove a negligible occurrence.

Two weeks after the accident (June 1) patient noted some swelling of the right upper lid and he soon began having headaches. They were irregularly recurrent and of varying severity. There was no vomiting or hemorrhage as an indication of serious skull injury.

Examination revealed a well-developed, twelve year old boy with what appeared to be a simple abscess in the right orbit. The upper lid was swollen until the eye was closed. The eyeball was normal internally but the patient could not move it. There was considerable proptosis, no bruit, no pulsation, temperature was 101, pulse 80, and respiration 20 per minute. There was a moderate cervical lymphadenitis, a mild mucoid post-nasal drip; the tonsils were moderately enlarged, red, and the anterior pillars somewhat congested.

Complete physical examination by Dr. Sydney Burgess revealed no additional pathology.

Laboratory report was that the urine was normal, Hgb. 75 (Dare), W. B. C. 7,300, and differential count normal except for a 5% eosinophilia. Blood Wassermann negative.

Diagnoses were made of the right periorbital cellulitis of undertermined etiology, chronic tonsillitis, and post-nasal drip.

Palliative treatment of heat, an astringent nasal spray and prontolyn were given. Three weeks later (June 27), there being no improvement, aspiration was attempted with a large needle and a few drops of semi-bloody material obtained. A right supra-orbital incision was made. About 2½ ounces of old clotted blood and a dram of pus escaped. Drainage was maintained for five weeks and consisted almost entirely of degenerated bloody material with a trace of pus. The staphylococcus aureus was grown from this material.

Of necessity, the patient was only seen at long intervals. When seen August 6 (10 weeks after the original injury to the opposite eye) there was a typical puffy tumor over the posterior part of the right frontal bone. It was semi-solid, not movable, not very tender, well-localized, and about two inches in diameter.

On August 28, Dr. C. J. Lemmon and I made a crucial incision over the swelling, immediately encountering a large mass of old blood, some pus, and necrotic bone. This was all cleaned and curretted away, removing, in the process, most of the outer table of the bone from the roof of the frontal sinus back, a large amount of diploe, and much of the inner table, exposing normal looking dura in these spots. Some trouble was encountered separating the dura from the inflamed bone but the dura was not injured. The wound was packed

with iodoform gauze, a few stay sutures inserted, and a dry dressing applied. Three whole blood transfusions were given during the ensueing week and the patient rapidly recovered to his present status.

Photograph No. 4.

Even now, a drop of pus escapes occasionally from the remnant of the wound above the eye.

Remarks: I should like to repeat that while osteomyelitis of the skull is rare, especially primary ("spontaneous") cases, they do occur, are not hard to diagnose, and, if treated early and aggresively, usually recover.

The photographs are re-prints of cases not my own except for the picture of one patient. Proper bibliographical credit has been given.

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DISCUSSION

Dr. Marion H. Wyman, Columbia:

I refreshed my mind on a case that happened in Columbia perhaps twelve years ago. That was in a Negro woman in the late thirties. I knew the husband well; he had some medico-legal trouble and was one of the few neurotics I have seen among negroes. This woman's Wassermann was negative at first but finally we did get a positive Wassermann on her. Her husband's Wassermann was negative; that on one of her parents was negative; and all her children's Wassermanns were negative. She responded to antiluetic treatment, and it was undoubtedly a luetic thing. It went down into the bone.

Eventually the husband developed a mental situation, but he never had a positive blood Wassermann and I am not clear as to what his mental situation turned out to be. He might have had a positive spinal fluid.

I should like to ask Dr. Eaddy if luetic infection does not play an important part.

Dr. E. W. Carpenter, Greenville:

I think osteomyelitis of the skull is a very important subject and am very glad to have heard Dr. Eaddy's paper. I should like to say just a few words about it. The title of his paper was "Spontaneous Osteomyelitis of the Frontal Bone." Spontaneous—just reach up in the sky and pluck something out of nowhere. That does not visualize the pathology and does not coincide with the etiology of the process. I do not like the word spontaneous. I sympathize with him in the effort to visualize this thing for you, and I know it is a term that is being used in the literature. I think it a mistake to try to separate this and try to call this an entity—spontaneous, infection—when it is an infectious suppurative process.

Most of us who know most about osteomyelitis know very little about the etiology. But we all agree pretty

well as to the pathology, and when you visualize the pathology you have a line on the etiology. (Dr. Eaddy did not confine himself to the spontaneous type of osteomyelitis, so I am discussing it in its broader terms.)

Most of these cases come from swimming, and you may get a small ulcerated area in the mucosa of the sinus. Then you must realize that the mucosa is richly supplied with veins and that the veins extend into the cancellated table; they go to the periosteum, and when they get under the periosteum they may dissect their way around the skull under the periosteum. So when you do get your oedema and swelling and open it up and expect to find the lesion under the abscess, the primary lesion may be in a vastly remote place from where you open up. So do not expect to be able to open up and excise your swelling and find your primary lesion right under that. You are going to be greatly fooled in a number of instances. The vascularity of the cancellated portion of the bone is very rich, so the lesion may spread to remote sections. The frontal sinus, the mastoid, and the orbit furnish most of the places of primary origin. The infection may be streptococcic, pneumonococcic or staphylococcic.

There are two schools in the handling of this. One says operate early, operate often, and extensively. When you go in you may think you are going to go away around the lesion, but the only way you have to judge it is by the eye when you look at it; and you cannot tell to save your life whether the retrograde venous thrombosis has extended further. Perhaps the wound begins to heal and you think everything is coming along nicely and another lesion develops. It is like having a fire in a cypress swamp.

There is another school that says procrastinate—drain. Don't drain with gauze; drain with rubber tubing. Don't be bashful. Lift the scalp, find where the bone is exposed, and follow it until you find the periosteum adhering to the bone. Wherever the periosteum is elevated the bone is diseased. Drain and drain continually.

I think the modern drugs like sulphanilamide are going to be of a great deal of help in determining the outcome in these cases.

We have had two cases recently. One was in a man who had been trephined; who had a small trephine on one frontal sinus seven years previously. His internal table was just like cheese. All of his frontal area on both sides of that brain was bathed and cut. There was no abscess; it was just a diffuse process.

The other case illustrates what the doctor calls the spontaneous type. There was no history of any sinus trouble and no history of trauma, yet he had this diffuse swelling. I put in a drain a few months ago, and I think he is going to get well. But we do not know whether it may break out in another place.

I do not know which school is right, but I believe we just have to use clinical acumen and clinical judgment in the handling of these cases.

Dr. F. E. Kredel, Charleston:

In my brief experience spontaneous osteomyelitis of the frontal bone is a very mild disease. I have operated on only two cases but have assisted with a number of others in Chicago. The condition is very benign. We operated, curetted out the diseased tissue, and sewed them up; and they have all gotten well. I think the local treatment in that manner rather than the wide removal of the bone around the infection is the thing that is indicated. It is in most cases a low-grade type of infection.

Dr. Eaddy, closing the discussion:

I thank the gentlemen for their discussion.

I do think syphilis is sometimes responsible. I dislike the term "spontaneous;" I think "primary" is a little better, but I dislike both. There are germs there that come from somewhere, so there must be a focus.

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MARCH, 1940

COMMENTS ON MEDICAL AFFAIRS HERE AND THERE ABOUT THE STATE

The year started off with a bang at Bennettsville where for twenty years the Marlboro County Medical Society has put on one of the notable post graduate courses of the South Atlantic States. These sessions always open with a reception at the fine Marlboro County Hospital where the medical staff and the excellent corps of nurses dispense lavishly the hospitality for which Marlboro County is famous. The County Society, about a dozen in number, had for their officers Dr. J. Y. O'Daniel, President, and Dr. L. P. Barnes, Secretary. It is quite well known of course that Bennettsville is the home of President Douglas Jennings of the State Medical Association and past president C. R. May. The scientific program was of the highest order and the banquet under the guidance of the Junior League ladies society was as usual a brilliant event.

The legislature is getting into full stride and the prospects are pretty good at this writing for favorable consideration of the wishes of the medical profession in regard to the appropriation for medical education and public health work. Dr. J. McMahan Davis is Chairman of the Legislative Committee of the South Carolina Medical Association. Any and all matters pertaining to impending or prospective legislation of concern to the members of the South Carolina Medical Association will be given prompt attention by this committee.

The influenza epidemic and other diseases incident to a severe winter taxed the physicians of South Carolina to the limit in many sections of the State hence some County Medical Societies have found it difficult to function regularly. Happily this situation is rapidly adjusting itself and the doctors have more leisure at their disposal. This leads to the observation that all of the Councilors and other members of the official staff of the Association will welcome invitations to the meetings of County and District Medical Societies between now and the State Association meeting April 30th, May 1st and 2nd.

The Bulletins of the Columbia Medical Society, the Greenville County Medical Society and the Anderson County Hospital continue to excite a sustained interest on the part of the medical profession of this and surrounding states. These bulletins not only carry case histories and other scientific articles but give one an insight into national affairs medico-

economic in scope. These bulletins also fill a long felt want by emphasizing the comings and goings of the members of their local societies and their families. Long may they live!

The Medical Society of South Carolina (Charleston County) will be host to the State Medical Association this year and it will be of general interest to know who the new officers are. Dr. J. H. Cannon is the President. Dr. Cannon served for many years as Councilor of the First District and more recently as President of the First District Medical Association. Dr. Cannon has likewise served a great many years as delegate to the American Medical Association. He is also an Associate Editor of the Journal. Dr. T. E. Bowers is the Vice President and Dr. J. I. Waring was reelected Secretary-Treasurer. Dr. Waring is the Assistant Editor of the Journal and Chairman of the Historical Commission of the South Carolina Medical Association.

It is a thrilling experience for one to have the privilege of being personally conducted by Dr. John van de Erve, Sr., Chairman of the Building Committee, through the labyrinth of clinic rooms, class rooms, laboratories and auditoriums of the new half million dollar Medical College building now nearing completion at Charleston. The new building and the adjacent buildings erected a few years ago will cover approximately one block.

The Executive Committee of the State Board of Health met in Columbia, February 21. The Secretary and State Health Officer, Dr. James A. Hayne, reported that the progress of public health activities in South Carolina has never looked more encouraging. At this meeting information was given out that the new State Office building costing upwards of a million dollars is well along toward completion and will be dedicated sometime in the spring. Several of the departments of the State Board of Health have had to seek other quarters outside of the present State Office Building but these will all be brought together in the new office building and hence add tremendously to the coordination of the work of the Board. The personnel of the State Board of Health of South Carolina now numbers including the field workers approximately three hundred people and the activities are growing by leaps and bounds.

The Journal has been implored by letter and by the personal visitations of delegations from numerous small communities in South Carolina interested in finding good doctors to locate therein. These requests have been extremely urgent in the past two years. There probably are enough doctors in South Carolina to render a reasonably good service to all the people but their distribution is a problem yet to be solved not only here but in many other states. The Journal will be glad to hear from physicians desiring to change their locations or to find a new location outright. There is an ad in this issue along this line.

The Journal of the American Medical Association, February 17 issue, carried a write up of the facilities for graduate instruction in this state calling attention to the state wide course in obstetrics given jointly in 1938 by the Medical College and the State Board of Health. The Piedmont Post Graduate Clinical Assembly at Anderson was emphasized as an important development and notation was made of the facilities of the Headquarters of the South Carolina Medical Association at Seneca with its 100 current journals and more than a thousand books in the library.

At the Conference of State Secretaries and Editors of State Medical Journals held in Chicago, November 17th and 18th, 1939, organization of the new NATIONAL PHYSICIANS' COMMITTEE for THE EXTENSION OF MEDICAL SERVICE was announced. This organization has no official connection with the American Medical Association or its constituent societies. From the pamphlet PRICELESS HERITAGE the object of the new organization is explained as follows:

A NON-POLICICAL
NON-PROFIT ORGANIZATION
devoted to:

1. Making possible the providing of medical

service to the indigent and those in the low income groups, and securing the most widespread distribution of the most effective methods and equipment in medicine and surgery.

2. Countering destructive propaganda by familiarizing the public with the facts in connection with the methods and the achievements of American Medicine.
and MAINTAINED EXCLUSIVELY BY VOLUNTARY CONTRIBUTIONS.

The long looked for report on Medical Care in the United States Demand and Supply by the Bureau of Medical Economics of the American Medical Association is off the press. This collossal undertaking represents a coverage of forty-eight million people. The officers of the South Carolina Medical Association made a sincere effort to contribute to this report. Probably a dozen or more counties and cities in South Carolina cooperated with the Association in this regard but the completed summaries covered only three counties and the city of Batesburg in Lexington County. The Counties were Darlington, Saluda and Edgefield. The total population covered in this completed report was 81,506. "The primary need expressed in the county summaries was provisions for the payment of medical care and hospitalization for the indigent. The health departments are the only government supported organizations that provide medical care for the indigent, and their chief complaint is that they do not have enough funds to care for the acute and emergency cases."

Governor Burnett R. Maybank has accepted an invitation to deliver an address at the dedication of the new Medical College in Charleston during the meeting of the State Medical Association there April 30th, May 1st and 2nd. Dr. Louis A. Buie, Chief of the Department of Proctology and Professor of Surgery (Proctology) of the Mayo Foundation for Medical Education and Research, The Mayo Clinic, Rochester, Minnesota, will deliver the address on Surgery. Dr. Buie is a native South Carolinian. Another distinguished guest is Dr. Oscar W. Bethea of New Orleans, Professor of Clinical Medicine at Tulane University, Senior Physician at the Southern Baptist Hospital and Senior Visiting Physician at Charity Hospital. Dr. Bethea is also a South Carolinian.

SECOND DISTRICT MEDICAL SOCIETY

Several papers of current interest were read at the meeting of the Second District Medical Society held at Batesburg in the Batesburg-Leesville high school on the evening of February 1 with President W. W. King of Batesburg, presiding.

Dr. William Weston, Jr., of Columbia read a paper on anterior poliomyelitis which was discussed by Dr. G. E. McDaniel, State Epidemiologist; Dr. A. T. Moore of Columbia, Dr. Ben Wyman of Columbia and Dr. F. S. Asbill of Ridge Spring.

Dr. R. P. Moorehead, pathologist from Wake Forest, N. C., read a paper on appendicitis and reported on correlation of clinical history and pathological findings in more than 5,000 appendectomies.

Dr. V. P. Sydenstricker of Augusta, Ga., read a paper on the clinical manifestation of the B group of vitamin deficiencies.

A dinner was served the society in the school cafeteria following the scientific session.

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COLUMBIA MEDICAL AUXILIARY

The Columbia Medical Auxiliary met Tuesday morning, January 2, at the home of Mrs. W. J. Bristow with about 50 members present.

Mrs. Alfred Burnside, President, presented Mrs. Manly Hutchinson, Program Chairman, who introduced Dr. Roger Doughty, the guest speaker. He made a most interesting and informative talk on the evil of socialized medicine.

Reports of the committee chairmen were called for after which the Secretary, Mrs. George McCutchen, read the minutes of the previous meeting. The Auxiliary voted in favor of buying a Tuberculosis bond. Mrs. Burnside announced that she had named as her advisory board, Dr. William Weston, Dr. Thomas Pitts and Dr. Hugh Wyman.

On the president's table was the lovely silver vase won at the State Medical Association Auxiliary meeting held in Spartanburg last spring for having the best scrap book. In the vase were lovely yellow roses, compliments of Mrs. Robert Seibels. Mrs. Seibels was chairman of the scrap book project which won first honor. After the meeting Mrs. Bristow invited the guests into the dining room where refreshments were served.

Assisting Mrs. Bristow were Mrs. David Asbill, Mrs. Manly Hutchinson, Mrs. Joe Dillard, Mrs. L. H. Hall, Mrs. Roy Smarr, Mrs. Robert Durham, Mrs. David Adcock, Mrs. Jim Quattlebaum and Mrs. Frank Coleman.

LAURENS COUNTY MEDICAL AUXILIARY

The Auxiliary to the Laurens County Medical Society, the youngest Auxiliary in the State, had its regular monthly meeting on February the 26th at the Lakeside Country Club. The meeting was called to order at 3:30 and the minutes of the last meeting were read by the Vice-President, Mrs. W. T. Martin, of Goldville, due to the absence of the Secretary, Mrs. D. O. Rhame, Jr., of Clinton. The February meeting was of special interest and importance due to the fact that it was a reciprocity meeting, and each auxiliary member had the privilege of inviting two friends to attend. The guest speaker, Mrs. Mark S. Ellis of Laurens was introduced by Mrs. John Garrett Hart of Laurens, President of the Auxiliary, who also extended a gracious welcome to the visitors for the occasion.

Mrs. Ellis, due to her personality and widespread connections, was heard with a great deal of interest as she spoke on "Emotional Development" bringing into her lecture various phases of her work as Director of the Greenville Family Welfare Society and the Volunteer Service of Junior Charities and South Carolina's sole representative on the Executive Committee of the Blue Ridge Institute for Social Work Executives. The very pertinent words of the speaker both theoretical and practical struck a responsive chord in the minds of those present as she divulged the

underlying reasons for various psychological and sociological reaction in (our) every day lives.

Following the program of the afternoon delicious refreshments were served by the hostess Mrs. R. P. McGowan of Laurens who had arranged beautifully appointed plates in the patriotic motif that was also used in the decorations of the blue room accentuated by vases of red carnations placed at vantage points. Thirty guests in addition to the auxiliary members enjoyed the hospitality of the social hour.

OCONEE COUNTY MEDICAL AUXILIARY

The Oconee County Medical Auxiliary met with Miss Leola Hines, Seneca, S.C., February 12 with Mrs. James E. Orr, Vice President, presiding and Mrs. H. B. Brennecke of Walhalla, Secretary, recording the proceedings.

During the business session plans were made for observing Doctor's Day on March 31. Among other items discussed was the appointment of a delegate to the meeting of the State Medical Auxiliary to be held in Charleston during the State Medical Association Convention, April 30, May 1st and 2nd. Miss Hines was appointed delegate with the privilege of selecting her alternate.

Mrs. W. B. Furman of Easley, President of the State Medical Auxiliary, was the guest speaker for the afternoon. She read a very interesting paper entitled "Medicine Through the Ages." After the business session and the program those present were invited into the dining room and seated around tables carrying out the valentine motif in the decorations. Vases of red carnations placed in the room also added to the attractiveness of the surroundings. The hostess assisted by Mrs. E. A. Hines and Mrs. Jim Sitton of Walhalla served a delicious salad course followed by a sweet course.

Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

Case of Dr. J. J. LaRoche

ABSTRACT NO. 403, (61148)

Dec. 15, 1939

Student Ray (presenting case):—

Admitted Sept. 20, 1939; died Oct. 25, 1939.

History: A 60 year old negro man was admitted with the complaint of weakness. Patient's history was vague, but with the wife's supplement, it was learned that his weakness was of about 6 months duration. He had noticed swelling of the ankles and legs for the past 4-5 weeks. No history of dyspnea. Also complained of a "pain in the stomach" for an indefinite period of time. Had been unable to retain solid food and had subsisted on liquids for several months. Bedfast for several days before admission because of profound weakness.

History of nocturia of three years duration that cleared up at the time of onset of the P. I. Slight cough for the past six months; frequent "colds."

Physical T—96^{8} P—92 R—20

Examination revealed a wasted and chronically ill, listless and mentally dull negro man lying quietly in bed. The skin was dry and the mucous membranes pale. The pupils reacted to L and A. Teeth were in very poor condition; otherwise, head not remarkable. The cervical and inguinal lymph nodes were palpable. The chest was thin, wasted and the right side of the thoracic cage appeared to bulge. Dullness to percussion over the lower half of the right chest up to the level of the scapula and at the left base posteriorly. Crackling rales over the lower third of the left lung and a fluid level on the right. The mediastinum was widened to 6 cm. plus. P. M. I. in the 5th. i. c. s. in m. c. l. Rate 92, presystolic gallop rhythm at the apex, A_2 accentuated. B. P. 155/100. Brachial and radial arteries sclerosed and tortuous. Veins distended over the the upper abdomen and lower thorax on the right. The abdomen was scaphoid. There was a deepseated, firm, nontender mass of fairly regular outline in the epigastrium toward the right. About 2 f. b. below the right costal margin was a smooth mass that moved with respiration. No other organs or masses felt. No lumbar tenderness. Prostate firm and moderately enlarged but smooth and regular. No pathological reflexes. Edema of both feet, more marked on the right than on the left.

Laboratory:

Urinalysis	9-20	9-30	10-14
How	Vd.	Vd.	Vd.
Sp. Gr.	1.006	1.014	1.012
Alb.	1 plus	1 plus	1 plus
Sugar	0	0	0
Casts	2 plus	2 plus	1 plus
Pus	5/HPF	3/HPF	5/HPF
Blood	0	0	0

Blood	9-29
Hb	7.5 gms.
RBC	3,500.000
WBC	8,500
Polys	84%
Lymphs.	15.5%
Bas.	.5%

Sputum 10-3 Mucus 2 plus. Blood—0 Pus 4 plus TBC—0

Blood Chemistry 9-22-39 Urea N—25 mgs.%

Blood Kolma—Neg. Blood Kline—Neg.

Course: Right-sided chest and abdominal pain at intervals. Persistent productive cough. Progressive anorexia, and weakness; remained afebrile throughout greater part of course. Died 10-25-39.

Although I did not see this patient when he was first admitted, he was assigned to me shortly afterward. The profound state of cachexia was most striking; the patient appeared too weak to answer the questions asked in history-taking and was quite apathetic. I attempted a gastric analysis but the patient's poor condition and the strain caused by the attempted passage of the tube made it seem unwise to proceed. Several stool examinations were made with particular emphasis on the possibility of demonstrating blood. No blood was found, either in the stools or the urine upon repeated examinations.

Dr. Boone (conducting): Mr. Flynn, what is your impression of this case?

Student Flynn: In this case, the most conspicuous general features are the cachexia and the abdominal tumor mass in a man of 60 years of age. Of all the possible causes for the cachetic state, malignancy seems to be the most probable. This is particularly true when reenforced by the finding of an abdominal mass in a man of this age group. The location of the tumor mass in the epigastrium, although situated more to the right, coupled with the history of inability to take and retain food, strongly suggests that the stomach was the primary site of such a tumor. Since the patient was a male, the chances of gastric carcinoma are enhanced. The six months period described in the history is consistent with the period of latency which elapses between the onset of the symptoms of gastric carcinoma and the time when the patient becomes bedridden, and is often seen in such cases. The history of inability to take solid food suggests the possibility of the tumor being polypoid in gross configuration and so causing obstruction. The cervical lymph nodes are commonly involved in carcinoma of the stomach, particularly the supraclavicular nodes, although the latter was not palpable in this case. The small moveable tumor mass described, below the right costal margin, is suggestive of liver metastasis. The Caput Medusa-like effect described for the right portion of the abdomen and chest suggests portal vein obstruction, at least partial in degree. Jaundice need not have been present and apparently was not present in this case. The chest findings described would indicate the presence of fluid. The afebrile course is against an inflammatory pleural effusion and appears to be on the basis of pleural involvement by metastatic tumor.

Assuming that there was partial portal vein obstruction produced by compression by metastatic tumor, it is difficult to explain why this patient did not have ascites. Fluid might have been present but in insufficient amount to detect clinically. Likewise, the edema of the lower extremities cannot be explained on the basis of portal vein obstruction; the carcinoma might have spread to the retroperitoneal lymph nodes of the lower abdomen and encroached upon the veins. However, this possibility was not borne out by rectal examination, at least, no information is given to indicate that such was the case. In a man of this age group I do not attribute much significance to the degree of elevation of the systolic blood pressure shown here. The same applies to the gallop rhythm. The urinalysis shows a rather consistently lowered specific gravity, albumen and casts. The Urea N was 25 mgs%, about twice the lower limits of normal. The elevated blood pressure interpreted in the light of the urinary findings and the abnormal blood chemistry might well indicate a benign nephrosclerosis. At any rate, I believe that it was only a contributory factor in the death of this patient. The blood picture points to a certain degree of secondary anemia that is sometimes seen in patients with gastric carcinoma.

Therefore, on the basis of the cachetic state with progressive weakness, epigastric mass, liver involvement, pleural effusion, digestive disturbances, abdominal pain and anemia, it seems that carcinoma of the stomach is the most likely diagnosis.

Dr. Boone (conducting): Mr. Flynn, how would you expain the unilateral edema that was present in this case?

Student Flynn: If there were abdominal metastases that pressed on the right iliac vein more than the left, it might produce a unilateral edema. I do not believe that it can be explained on a postural basis.

Dr. Boone (conducting): Mr. McInnes, what is your impression of the case?

Student McInnes: I, too, believe that carcinoma of the stomach best explains the findings in this case. It is noted from the supplementary history that this patient had had epigastric pain for quite some time. This fact suggests the possibility that the gastric carcinoma might have been preceded by an ulcer, even though only a small percentage of ulcers are known to become cancerous. The failure to take food spoke for obstruction. This suggests

the possibility of the edema of the lower extremities being on the basis of nutritional deficiency, either protein or vitamin, or both.

Dr. Boone (conducting): Do you believe that vitamin deficiency would cause edema of this kind, and if so, would it do so directly or indirectly?

Student McInnes: I believe it would be possible to explain the edema on the basis of vitamin deficiency but not probable in this case because it was not generalized, as it usually is in a vitamin de ficiency state.

Miss Ray (reading the X-ray report of 9-22-39): "There is considerable increase in the lung markings with marked irregularity and increase in the hilar shadow on the right. There is density of the right base extending to the tip of the 5th rib anteriorly which probably represents fluid. The left base is clear except for some pulmonary congestion. There is moderate cardiac enlargement and moderate widening of the aorta."

Student McInnes: I believe that the patient had pleural metastases with fluid accumulation. I cannot explain Caput Medusa to my own satisfaction. My diagnosis remains as carcinoma of the stomach.

Miss Ray (reading further from the chart): I might add at this point that examination of the pleural fluid for carcinoma cells was made and the pathological report was negative.

Dr. Boone (conducting): Mr. Moody, what is your impression?

Student Moody: My diagnosis is carcinoma of the stomach.

Dr. Boone: How do you reconcile your diagnosis with the absence of blood in the stools? How do you explain the unilateral edema?

Student Moody: I cannot explain the absence of blood in the stools except that possibly an insufficient number of stools were examined. I believe that the unilateral edema is explainable on the basis of unilateral venous obstruction by secondary tumor growth.

Dr. Boone (conducting): Had this been your case, what additional work-up would you have done?

Student Moody: I would have done a gastric analysis. A flat plate of the abdomen might also have been helpful in locating the tumor mass.

Dr. Boone (conducting): What is your estimate of the renal function in this case?

Mr. Moody: The urinary findings and blood chemistry alterations in this case indicate definite renal damage. It would be rather difficult to differentiate chronic glomerulonephritis from nephrosclerosis but I believe the latter is the more probable.

Dr. Rice (presenting X-ray films): (Demonstrating chest plate of 9-22-39) The outstanding features shown on this plate are the fluid at the right base, the irregular mass in the mediastinum, the displacement of the heart slightly to the left and congestion of the left base. On this particular examination there is no definite evidence of metastatic tumor involvement of the pleura. (Demonstrating flat plate of abdomen). There is considerable gas in both the splenic and hepatic flexures of the colon so that the liver margin and kidney outlines are not visualized. An interesting feature is the chalky appearance of the vertebrae of the lumbar spine. These were first thought to be metastatic tumors of the bone. However, a few days later when this patient was reexamined this feature was not so prominent. You can see here in the right upper abdominal quadrant a small discretely round opacity, believed to be a gunshot on the basis of the history of a previous admission to the hospital for treatment of multiple gunshot wounds. The mass in the epigas trium is more to the right than to the left. It tends to displace the gas filled bowel to either side of the mid-line.

Dr. Kelly: From what has been said there are certain features in this case that must be satisfied in localizing and determining the nature of the epigastric mass. The tumor was fixed, more to the right, the stools were negative, there was suggestive evidence of pyloric obstruction and interference with the return circulation below the level of the portal system causing edema. It might have proved interesting to have had a determination of the plasma protein. I do not believe that the X-ray examination of the lungs is conclusive, particularly since the plate was taken about one month before the death of the patient.

Dr Boone (conducting): Before turning the discussion over to Dr. Lynch. I want the students to bear in mind the fature of the unilateral edema. I recall having previously seen a similar case in which this sign was quite outstanding.

Dr. Lynch (demonstrating the gross pathological specimen): This is a case of carcinoma all right, but not of the stomach. It is of the kidney, which is not so common. In the clinical data furnished on the protocol there is no direct lead given to carcinoma of the kidney. It might very well be confused with carcinoma of the stomach. (Demonstrating kidneys and retroperitoneal tumor mass). You can see that the right kidney is almost completely destroyed by the tumor growth. It encroaches directly upon the pelvis; I do not know why blood was not found in the urine at some time. This is no reflection on the examination of the urine, but is just one of those things which so commonly occurs. Had blood been found in the urine it would have helped greatly in localizing the tumor. From the kidney, the tumor extends into the mid-abdominal area and retroperitoneal lymph nodes. There is thrombosis of the right renal vein and inferior vena cava which extends upward toward the thorax and downward into the pelvis. This feature furnishes the mechanical explanation needed to explain the unilateral edema of the lower extremities. The left kidney is grossly uninvolved but did show some degree of benign nephrosclerosis on microscopic examination. Invasion of the veins is common for kidney tumors. In fact, there are two neoplastic

conditions what are apt to present this feature. i. e., malignancy of the liver and malignancy of the kidney, either carcinoma or hypernephroma. (Demonstrating the lungs) All pleural surfaces are covered with metastatic tumor nodules, particularly in the interlobar pleura and around the bronchi. There are also nodules on the epicardium and numerous ones in the liver. The larger one here in the lower portion of the right lobe is probably the one that was felt to move with respiration. (Demonstrating sections of the vertebral bodies). The vertebral bodies of the lumbar and thoracic spine show small white and grayish colored metastatic tumor nodules.

There is a great deal about this case that is very interesting. For instance, what destroyed this man? He had adequate kidney tissue remaining in spite of the renal tumor. There was no blockage of any vital tracts demonstrable. There was no infection, which is so often the common accompaniment of advanced stages of malignancy. It is rather difficult to see the reason for the cachexia and the profound weakness of six months duration. No doubt the patient had a terminal pneumonia near the end. Another thing, why is fever regarded as so characteristic of neoplastic disease? This patient certainly had an extensive neoplasm but no fever until the very end of his clinical course. This is a case that emphasizes that fever in malignancy comes mainly from intercurrent infection and not from neoplasia per se. The anemia in this case is not readily explainable. We know that there were bone metastases but we do not know how much of the bone marrow was actually involved. Were this involvement sufficient it might explain the anemia.

A student: The chart states that pleural fluid was removed and examination for the presence of tumor cells. With such a marked involvement of the pleura, why were the tumor cells not detected?

Dr. Lynch: Only one examination was made. Such an examination represents a sampling process which follows the same laws of probability as does the examination of the sputum for tubercle bacilli or the urine for blood. Then too, in much an examination, the tumor cells must be apparent in such a manner as to satisfy the necessary criteria that will definitely set the cells down as being neoplastic. (Micro-projection demonstration of the tumor tissue by Dr. Lynch).

SOCIETY REPORTS

ANDERSON COUNTY MEDICAL SOCIETY REPORT
HEPATIC FUNCTION TESTS AND EVALUATION OF VITAMIN K THERAPY

J. M. FEDER, M. D., ANDERSON, S. C.

The need for a suitable hepatic function test has been recognized for a long time and many attempts have been made to evolve one that would prove satisfactory.

We owe a debt to Quick of Marquette University for giving the profession the first really practical hepatic function test. His method is based upon the logical reasoning that the synthesis of Hippuric Acid from Benzoic Acid is a detoxifying process and is brought about by the conjugation of Benzoic and Aminoacetic Acid. The rate of the synthesis of hippuric acid is governed by the ability of the organ to produce aminoacetic acid. Quick logically reasoned that the synthesis will be adversely affected in certain types of liver cell damage. The output of hippuric acid will therefore be diminished owing to the fact that there is a lack of aminoacetic acid to combine with the benzoic acid, and thus this decrease will furnish a definite index to the extent of the damage.

A satisfactory intravenous test has been established and has proven to be quite satisfactory in our hands.

The results of these investigations are reported in percentage; from 70 to 100 percent being considered normal, from 50 to 70 percent in the median danger zone and below 50 percent inoperable until a satisfactory degree of liver function has been established.

I. Ravdin in the New England Medical Journal states that restoration of liver function can best be accomplished by forcing glucose therapy in an endeavor to replenish the liver glycogen and endeavor to insure an adequate store. He recommends oral feeding of a high carbohydrate diet, supplemented by intravenous administration of glucose at a rate not faster than 20 grams an hour. Anorexia can be combatted by the use of liberal doses

Abstract of paper read before the Anderson County Medical Society, Anderson, S. C., January 10, 1940.

of Vitamin B₁ along with bile salts. Protein should be added to the high carbohydrate diet in a ratio of 14 percent of the total calories in an attempt to rid the liver of accumulated fat.

Summarizing Hepatic Function:—

1. A test for liver function is now in use which gives information sufficiently accurate to be of clinical value.

2. The concensus of authorities agree that an estimation of hepatic intergrity should be made in every case where surgery of the biliary tract is contemplated. This should also be carried out before surgery in Toxic Goiter as the increased metabolism present in these cases has almost invariably depleted the livers store of glycogen.

3. Hepatic function can be restored by preoperative management by forced carbohydrate administration. It is essential that the progress of the case be controlled by frequent tests of liver function and that operation be deferred until a satisfactory index has been reached.

The theory was evolved that vitamin K and perhaps other closely related substances were essential for the formation of prothrombin which takes place largely in the liver. It was definitely proven that the hemorrhagic tendencies observed in obstructive jaundice and biliary fistulae were due to prothrombin deficiency. It has been shown that while most individuals obtain sufficient Vitamin K in their diet, if the diet be restricted or if there is a lack of bile which is essential for its absorption, or if there is sufficient hepatic damage to interfere with its formation, the blood prothrombin falls to a low level.

The suggested dosage from Squibb is one to two capsules daily, each capsule containing 40,000 Dam Units. It is essential that some form of bile be administered with each capsule.

The problem of determining the prothrombin time has been reduced to a relatively simple laboratory procedure and should be carried out in each instance where one has reason to suspect that there is a biliary deficiency in the duodoneum. However, as Dr. Harper will shortly report, encouraging results are being seen in other types of hemorrhagic disease. However, research to date has proven it to be utterly valueless in hemophilia and the purpuric dyscrasias as well as hemorrhage in the leukemias.

The prothrombin time should, however, be estimated in every case of idiopathic hemorrhage and in the event that it is below 70, vitamin K should be administered. Values below 100 percent indicate a hemorrhagic tendency and from 30 to 50 hemorrhage will undoubtedly occur.

DISCUSSION

H. Y. Harper, M. D., Anderson, S. C.

I wish to present a summary of our briet experience with the use of Vitamin K. Our experience has proven the contentions which Dr. Feder has presented in his excellent paper. One case which I have treated has been rather unusual in that a prothrombinemia was present, the hemorrhaghic diathesis was present, yet there was no biliary obstruction or biliary fistula. A young man, age 42 presented evidence of a urethral stricture—namely a clear watery urethral discharge, a feeling of fullness and pain in his perineum, low backache together with a history of an acute Neisserian infection two years ago. A small metal sound was passed and an obstruction was encountered in the membranous urethra. A smaller sound was then passed successfully but when it was withdrawn a drop of blood discharged from the urethra. He was observed for a period of thirty minutes and no further bleeding was noted. His urine was entirely clear thereafter for four days. On the fifth day after he was sounded, he had a very severe hemorrhage from his urethra, losing about a quart of blood. The bleeding could not be controlled by the usual conservative methods and it finally became necessary to introduce a resectoscope, after evacuating the bladder of about a pint of clotted blood, and coagulate a point of arterial bleeding on the floor of the urethra just inside the bladder neck. The point of bleeding was not related to the urethral stricture which was in the membranous urethra. Thereafter his urine became clear and remained clear for eight days at which time he began to bleed profusely again. The resectoscope was again introduced and numerous bleeding points around the inside of the neck

of the bladder were noted. These were separately coagulated and the patient was given a blood transfusion together with autohemotherapy. During the following week, his urine remained port wine colored and he occasionally passed blood clots. A prothrombin determination at this time revealed a prothrombin clotting time to be 50% of normal together with a coagulation time of 6½ minutes. He was then given three capsules of vitamin K each containing 2000 Ansbacher units daily together with one Bilron capsule three times daily. After three days of this treatment, his urine became clear and has remained clear since that time—six weeks. Red blood cells cannot even be detected microscopically. I have failed to note a parallel of this case in the literature in view of the fact that a prothrombinemia accompanied by the hemorrhaghic tendency was present without a biliary obstruction or a biliary fistula. Evidently this patient had been taking a diet deficient in the vitamin K bearing foods.

The other two cases are not worthy of emphasis in that they were both cases of obstructive jaundice presenting laboratory evidence of prothrombinemia which responded rather rapidly to vitamin K and bile salt therapy. The lesson that I have gained from this limited experience is to investigate the prothrombin clotting time in cases presenting the hemorrhaghic diathesis regardless of whether or not there is an obstructive jaundice or a biliary fistula.

RESOLUTIONS

DR. J. S. MATTHEWS

IN MEMORIAM

THE TRI-COUNTY MEDICAL SOCIETY

The members of The Tri-County Medical Society desire to go on record as expressing profound sorrow over the death of Dr. J. S. Matthews, which occurred on November 16th, 1939.

Dr. Matthews was permitted to answer the call to the Great Beyond by our kind Heavenly Father as he had so often wished, while on duty relieving the suffering of humanity.

Dr. Matthews was for years a most faithful, stimulating and helpful member of our group, the District Group and the State Medical Association. In addition to serving in various offices of our group, he was also a most efficient member of The South Carolina State Board of Medical Examiners. He was elected to the latter office in 1921, and served continually until his death. He was also president of this body for a number of years.

We do not attempt to express our sorrow over his loss and our appreciation of his beautiful life in a set of formal resolutions, for Dr. Matthews was far too a great a man, in the truest sense of the word, to be summed up in any set of resolutions. His virtues as a man and physician would be a huge task to sum up in writing.

South Carolina gave in Dr. Matthews, the noblest and finest type of a gentleman. He was a true gentleman to the very depths of his heart and rejoiced in observing others who were likewise.

Dr. Matthews was learned in his profession and true to its highest ideals and traditions. He always admired those who never gave up the finer ethics, arts and ideals of medicine for commercialism. His advice to his fellow physicians was always for clean, truthful and honest practice of medicine. He gave us a most noble example by following his advice himself.

Dr. Matthews ministered to his fellowman with the skill of a disgnostician, which he truly was. Everywhere he went on missions of healing and mercy, he carried that noble personality and understanding by which he won the love and confidence of all. People loved him not only professionally, but for the life that he lived and the deeds he did.

A. W. Lowman, M. D.
T. M. Stuckey, M. D.

OCONEE COUNTY MEDICAL SOCIETY

The Oconee County Medical Society met February 12, at the Oconee County Hospital with Dr. J. P. Booker of Walhalla, presiding. After a short business session clinical case reports were called for. Under this head Dr. Booker presented a little boy about nine years old with pseudohypertrophic muscular dystrophy. This was the first case of the kind

ever presented before the Society. Dr. Booker gave an accurate description of the disease and by the splendid cooperation of the little patient was able to demonstrate the different groups of muscles involved. The doctor had tried most of the usual suggested remedies for the malady without any appreciable benefit. The case excited intense interest on the part of every member of the Society present. Dr. E. A. Hines gave a brief historical review of the life of William John Little, an English physician who was the first to describe these dystrophies. Dr. Hines commented also on his own personal observations along this line in the Great Ormond Street Hospital in London for sick children where Dr. Little had been during his life time a visiting physician. Dr. Hines also noted that Dr. Little was the first orthopedic surgeon and one of the earliest pediatricians and neurologists of England.

Dr. J. T. Davis of Walhalla presented an interesting case report of a man who developed serious nervous manifestations after drinking boot leg liquor in rather liberal quantities. These repeated convulsive seizures with opisthotonos lasted for several hours but the patient recovered. No member of the society would venture an opinion as to the actual formula of boot leg liquor and therefore the etiological factors involved were undisclosed.

The President appointed a Program Committee with Dr. J. N. Webb of Seneca, Chairman and the President and Secretary Ex-officio members. At the close of the scientific session the nursing staff of the hospital served delicious refreshments carrying out the valentine motif.

FIRST DISTRICT MEDICAL ASSOCIATION

The First District Medical Association held its Semi-Annual meeting at Walterboro, S. C., on Thursday, November 16, 1939, at 5:00 P. M. Dr. J. H. Cannon of Charleston, President, presided and Dr. J. van de Erve, Jr., of Charleston, Secretary, recorded the proceedings of the meeting.

Dr. A. M. Lassek, Professor of Anatomy, Medical College of the State of South Carolina, read a paper on The Hypothalamus and showed lantern slides. Dr. Roger Doughty, surgeon of Columbia, read a paper on Congenital Obstruction of the Duodenum and Dr. F. A. Hoshall, Professor of Orthopedic Surgery, Medical College of the State of South Carolina read a paper on Orthopedic Review and gave a moving picture demonstration.

After the program an excellent dinner was enjoyed by those present at the Lafayette Grill.

BOOK REVIEWS

HYPERTENSION AND NEPHRITIS: By Arthur M. Fishberg, M. D., Associate in Medicine, Mount Sinai Hospital, New York City. Fourth Edition, Thoroughly Revised. Illustrated with 40 engravings and a colored plate. Lea & Febiger, Philadelphia. 1939. Price $7.50.

It has been five years since this book has been revised and now comes a very thorough revision as a result of many modifications of concept and also much real progress in the knowledge of Bright's disease. There is a new chapter on azotemia and considerable discussion of the surgical treatment of essential hypertension. Other sections have been added to or modified as follows; Prerenal azotemia, the differentiation of glomerular and tubular elements in renal failure, clearance tests, the plasma proteins in the nephrotic syndrome, the Addis count, mercurial diuretics, Goldblatt's experimental production of hypertension, the mechanism and pathogenesis of hypertension, the pathogenesis and treatment of hypertensive encephalopathy, papilledema in hypertension, the nephrotic syndrome in diabetes, hemoglodinuric nephrosis, the treatment of edema with acacia and concentrated blood serum, Masugi's experimental production of glomerulo-nephritis, skeletal changes in renal insufficiency tumors, the pathogenesis of malignant phase of essential hypertension, and the nature and treatment of the toxemia of pregnancy. The author has kept in mind the needs of the general practitioner for a practical book and therefore has provided simple laboratory procedures for his guidance as well as workable medical therapeutics, and dietary procedures. The author states that the specific gravity test is in his opinion the method most generally useful to the practitioner who does not have a laboratory at his

command in investigating the functional capacity of the kidneys. Of course there is an enormous amount of information about hypertension. The discussion of the blood pressure in health is very interesting. The author gives credit for much of this knowledge to the investigations of Symonds and Fisher on the examination of insurance applicants. The author says that a systolic pressure of above 150 m.m. is to be regarded as abnormal at all ages and quotes Alvarez on his investigations of college students and office patients that a systolic pressure of over 130 m. m. in young men and 127 m.m. in young women is suggestive of a hypertensive diathesis. The normal diastolic averages below 90 mm at all ages in the opinion of the author. He says that a diastolic pressure of 100 mm. is probably always pathological and even 95 mm. very suspicious and in young individuals 90 mm. is considered abnormal. The author confirms the general idea that the average blood pressure rises with increasing years, but in this connection it would seem advisable to bear in mind the above statement as to the significance of 150 mm. at all ages. The author has been unusually generous in his quotation of the work of other men from the days of Richard Bright to the present and that means that his bibliography is an extremely important part of the book. There are a good many excellent illustrations and the book has seven hundred and seventy-nine pages.

THE ESSENTIALS OF APPLIED MEDICAL LABORATORY TECHNIC. Details of How to Build and Conduct a Laboratory in Hospital or Office at Small Cost: By J. M. Feder, M. D., Director of Laboratories and Allergic Service, Anderson County Hospital, Anderson, S. C., Charlotte Medical Press, Charlotte, N. C. 1940.

Few medical books open with a poem on the first page but this book is different from most laboratory manuals. The general appearance is attractive. On the outside front cover appears the microscope and the test tube. The color of the book is blue and the size of the book is at variance with the standard text-books. It is larger and on the book shelf will stand out in such a way as to catch the eye for on the back in large letters appears the name of the book and the name of the author. All of this should mean that the busy doctor or laboratory worker can easily locate the volume. The author is well known in South Carolina and beyond the borders of the state. In addition to his duties as the chief of the Anderson County Hospital Laboratories he is an active member of the faculty of the Piedmont Post Graduate Clinical Assembly. The volume is dedicated to Dr. Frank Wrenn, Medical Director of the Anderson County Hospital. According to the author the intention of the book is to serve as a practical guide for the medical man in active practice, for the specialist in pathology or the technician in the laboratory. Perhaps a better understanding of the contents may be visualized by a glance at the headings of each chapter as follows: Essential Laboratory Equipment; Its Purchase, Care and Extemporization; The Microscope—Its Use and Care; Laboratory Records; Routine Hematology; The Common Blood Dyscrasias; Blood Matching and Typing for Transfusion; The Problem of Blood Transfusion (Elliott); Blood Culture Technic; Urine Analysis; Laboratory Diagnosis of Syphilis; Examination of Sputum; Friedman Test for Pregnancy; Gastric Analysis and Gallbladder Drainage; Essential Blood Chemistry Examinations; Spinal Fluid; Examination of Feces; Practical Bacteriological Methods; Applied Routine Bacteriology; Basal Metabolism; Elementary Clinical Toxicology; Chemical Examination of Milk; Autogenous Vaccines; Introduction to Technical Allergy; Elements of Technical Tissue Pathology. It would appear that a book like this designed as it is to meet almost every contingency likely to arise in the conduct of a laboratory or in the application of laboratory procedures to the practice of medicine should immediately become a best seller especially in South Carolina. A great many tricks so to speak of the profession bearing on the simplification of the practice of laboratory procedures have been noted in the book, many of them original with the author. As is well known the trend now is for the majority of practitioners to employ combination Secretaries and Technicians in their offices and such a book as this should prove to be a useful reference work for them. In this connection the photographs of apparatus and drawings of the actual work in progress are invaluable for clear cut instruction to the laboratory worker. There are about 150 of these illustrations in the 234 page volume. The book will be a money saver on the purchase of equipment and the running of any kind of laboratory. The author has had a large experience in training technicians and in assisting doctors to equip their laboratories.

SOUTH CAROLINIANA

J. I. WARING, M.D., CHARLESTON, S. C.

DIABETES AND THE USE OF PROTAMINE INSULIN, by R. WILSON, JR., CHARLESTON. SOU. MED. & SURG. 101:587, DEC., 1939.

The author finds that regular insulin and protamine insulin both have fields of usefulness. Dietary management is discussed and all phases of diabetes are touched.

INFECTIONS OF THE HAND, by D. L. MAGUIRE, CHARLESTON. SOUTH. SURG. 9:11, JAN., 1940.

The author stresses the importance of initial treatment and discusses the management of various types of infection.

RADIUM QUANTITY METER, by R. R. TAFT, CHARLESTON. AM. J. ROENT. & RADIUM THERAPY 42:900, DEC., 1939.

Description of an apparatus designed to measure the number of milligrams of radium in any given container.

SUBMUCOUS LIPOMA OF THE LARGE INTESTINE, WITH CASE REPORT, by W. J. RAVENEL, CHARLESTON. RADIOLOGY 34:217, FEB., 1940.

The author reviews the literature and the symptoms and describes a case treated successfully by surgery.

ADAPTATION OF THE ROLLS RAZOR TO A NEW TYPE OF MICROTOME BLADE, by J. M. FEDER, ANDERSON. J. LAB. & CLIN. MED. 25:202, NOV., 1939.

How to shave a section.

TWENTY YEARS' EXPERIENCE WITH SKIN CANCER, by J. RICHARD ALLISON, COLUMBIA. SOUTH. MED. J. 33:16, JAN., 1940.

Dr. Allison expresses optimism as to the eventual control of skin cancer. In South Carolina quackery has decreased and patients present themselves earlier for treatment, largely because of educational efforts. The author doubts that elaborate institutions for treatment are necessary. Over treatment with X-ray and radium are dangerous. Daily dressings are important. Wholesale removal of warts and moles is desirable as prophylaxis.

VOLUME AND CORTICO-MEDULLARY RATION OF THE ADULT HUMAN SUPRARENAL GLAND, by C. A. SWINYARD, CHARLESTON. ANATOMICAL RECORD 76:69, JAN., 1940.

Dr. Swinyard discusses comparative racial and sexual differences.

BLACKMAN SANATORIUM

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Extensive facilities for hydrotherapy and colonic lavage.
Electrotherapy including fulguration

LIKE NEW THROUGHOUT

Clinical and X-ray Laboratory Service
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A Department for the Lambert Treatment for Alcohol

418 CAPITOL AVENUE ATLANTA, GA.

PRELIMINARY PROGRAM

SOUTH CAROLINA MEDICAL ASSOCIATION, CHARLESTON, S. C., APRIL 30, MAY 1, 2, 1940

HEADQUARTERS—FRANCIS MARION HOTEL

IMPORTANT NOTICE

The House of Delegates will meet this year on the afternoon of April 30th, the exact hour to appear in the final program.

The Council will meet in the morning of the same day, April 30th.

The opening exercises of the scientific session will occur on the morning of May 1st, at the Francis Marion Hotel.

GUEST SPEAKER, MAY 1st

Dr. Oscar W. Bethea, Professor of Clinical Medicine, Tulane University. Title of Dr. Bethea's address will be "Heart Pain."

GUEST SPEAKER, MAY 2nd

Dr. Louis A. Buie, Chief of the Department of Proctology, The Mayo Clinic; Professor of Surgery (Proctology), The Mayo Foundation for Medical Education and Research and the University of Minnesota. Dr. Buie's address will deal with the practical procedures in proctologic practice of interest to the general practitioner.

PAPERS

Note: The Committee on Scientific Work of which Dr. Robert Wilson, Jr., is the Chairman, has announced the acceptance of the papers listed below but further information from the Committee will be available in the next few weeks as to other papers selected for the final program.

Chronic Conditions of the Gall Bladder

Dr. Gertrude Holmes and Dr. Hugh Smith of Greenville

Regional Ileitis

Dr. Alfred F. Burnside of Columbia

Traumatic Injuries to the Kidney

Dr. Hugh Wyman of Columbia

The Conservative Management of Pelvic Infections

Dr. James A. Sasser of Conway

Poliomyelitis

Dr. G. E. McDaniel of Columbia

Intravenous Therapy in the Treatment of Acute Heart Failure and Cardiac Asthma

Dr. James T. Quattlebaum of Columbia

Diagnosis and Management of Carcinoma of the Colon

Dr. Roger Doughty of Columbia

Some Observations upon the Conduction of Labor

Dr. J. D. Guess of Greenville

POST GRADUATE CLINICS AND CONFERENCES

The vast facilities of the Roper Hospital and the new Medical College will be available for the presentation of various subjects including Fractures, Varicosities and Ulcers. Laboratory Exhibits, Rheumatic Heart Disease.

SCIENTIFIC EXHIBITS

Owing to the unusual opportunity presented by Charleston as a great medical center the Scientific Committee is planning for an unusual presentation this year.

COMMERCIAL EXHIBITS

The commercial exhibits are always of interest to the entire membership in attendance on the annual meetings and this year they have been carefully selected in order that they may have both an educational and commercial value to the doctor.

WOMAN'S AUXILIARY

This should be the banner year for attendance and enjoyment for the doctor's wife. The Auxiliary was organized in Charleston at the diamond jubilee of the State Medical Association in 1923. The officers this year are as follows: Mrs. William B. Furman of Easley, President; Mrs. H. L. Timmons of Columbia, President Elect; Mrs. W. L. Pressly of Due West, First Vice-President; Mrs. P. M.

Temples of Spartanburg, Second Vice-President; Mrs. J. W. Kitchen of Liberty, Recording Secretary; Mrs. R. P. Jeanes of Easley Corresponding Secretary; Mrs. Jesse O. Willson of Spartanburg, Treasurer; Mrs. C. C. Ariail of Greenville, Parliamentarian and Dr. Louise L. Ballenger of Batesburg, Publicity Secretary.

ENTERTAINMENTS

No city in the South offers a more varied program of entertainments for their invited guests than does Charleston. The outstanding event of the State Medical Association is of course the President's reception and ball and in addition to this there will be a luncheon and tea for the visiting women.

GENERAL INFORMATION

There are many good hotels in Charleston but all who desire to make reservations at the Francis Marion which is the Headquarters Hotel should write at once and secure them. The local society has appointed numerous committees to direct the affairs of the convention a list of which will be published in the final program but for the present all inquires outside of the scientific program should be directed to Dr. Pierre G. Jenkins, 155 Wentworth Street, Charleston, S. C., Chairman of the Committee on Arrangements.

The season for the meeting should be ideal and an attendance of five or six hundred doctors and their wives may be expected.

NEWS ITEMS

At the February meeting of the Anderson County Medical Society held in Anderson on February 14, Mr. Jack Craft, Chairman of the 1940 Anderson County Infantile Paralysis Campaign, was presented to the Society by the President, Dr. Herbert Blake. Mr. Craft made a report on the campaign for the raising of sufficient funds for the purchase of an iron lung for the county. He asked for medical consultation from the Anderson County Medical Society in the purchase of the iron lung and the President appointed the following committee to act in an advisory capacity, Dr. Frank Wrenn, Chairman; Dr. Homer M. Daniel; Dr. J. M. Feder and Dr. Goodman Bare. On February 27 it was announced that a successful campaign for the purchase of the iron lung had been concluded and that it had been purchased.

Dr. Charles O. Burrus, age 58, for the last 34 years a practicing physician at Sharon, South Carolina, died suddenly on February 27 in a Charlotte hospital. The doctor had gone to Charlotte to witness an athletic contest when he suffered a cerebral hemorrhage and died a few hours later. He was a native of Fredericksburg, Virginia and received his academic education at Locust Dale Military School, Orange, Virginia. He graduated from the School of Medicine at the University of Maryland in 1904 and following an internship in the University hospital he located at Sharon in 1906. He was a leader in the business and religious life of that town being a member of the Woodlawn Presbyterian Church, a Mason, a Shriner and a member of the Junior Order. Funeral services were conducted at Woodlawn Presbyterian Chuurch, February 28, at 3 o'clock. Members of the York County Medical Society served as honorary pallbearers. He is survived by his wife, a sister, two nieces and one nephew.

Dr. R. M. Pollitzer of Greenville is teaching a course on "World Affairs" at the Citizens' Education Center which is being held at the Junior High School building on Westfield St. This course is sponsored, as it was at the last session of the Citizens' Education Center, by the American Association of University Women of which Mrs. C. B. Loomis is Chairman of the Committee on International Affairs. Dr. Pollitzer's discussion includes such topics as Why War? Will the United States Stay Out of War? Democracy—social and

economic; The Cooperative Way; Fascism; Socialism; Nazism; Communism; League of Nations—Success or Failure? Aftermath of this World War; Man and the Future.

Dr. Baylis H. Earle of Greenville has received a commission as Surgeon General of the United Confederate Veterans organization with the rank of Major General. The commission was signed by General J. F. Howell, Commander in Chief of the United Confederate Veterans and by Adjutant General Ben C. Mathes, Chief of the Staff, having been issued January 8. Dr. Earle also is Commander of the Army of Northern Virginia Department, Sons of Confederate Veterans, and also of the South Carolina division of the South Carolina Veterans. He also holds the rank of Assistant Surgeon General in the order of the Stars and Bars in which veterans hold the principal positions with sons of veterans holding other ranks.

Dr. J. Creighton Mitchell was graduated from the Medical College of the State of South Carolina fifty years ago, March 1, 1890, and started practising medicine in Charleston his native city. It is interesting to note that he and his father, together, practised medicine in Charleston for one hundred years. When asked for a brief sketch of their lives and of the changes he has encountered in medicine some of his remarks were as follows: "I am the youngest son of the late Dr. John Smith Mitchell, who was graduated from the Medical College in 1857. He practised from that time until his death, a period of fifty years. In October 1887 I began the study of medicine and was graduated tonight fifty years ago. In 1891 I received an appointment as intern at the United States Marine service hospital on Staten Island and remained there for fifteen months. The year before the Spanish American War the Marine Hospital service was looking for physicians who had had yellow fever and hearing of this I applied having had it in 1870. They accepted me and sent me to Key West. In November of that year the quarrantine being up I was returned to Charleston. The changes I have seen in the preparation of surgical supplies have been wonderful. When I began to practice the clinical thermometer had been used only a few years and the microscope, now used for all patients whose ailments last more than twenty-four hours, was in its infancy. One improvement I should like to emphasize is the development in charitable institutions for the treatment of the sick. The tuberculosis hospital near Columbia and our own Pinehaven are notable."

Dr. I'on Weston, formerly of Columbia, arrived in Mullins on March 2 where he became Chief Surgeon of the James L. Martin Hospital. He is taking the place of Dr. Allan H. Johnson, who has gone to Hemingway and opened a new hospital. Dr. Weston has been connected with the Columbia Hospital at Columbia and the Saunders Memorial Hospital, Florence, for the past ten or twelve years.

Dr. James R. Latimer of Anderson, well known local physician and surgeon, was elected the latter part of January President of the Clinical Society of the Anderson County Hospital succeeding Dr. J. L. Gray. Other newly elected officers for the ensuing year are Dr. E. O. Hentz, Vice President and Dr. Herbert Blake, Secretary. The Executive Staff includes Dr. J. R. Young, Dr. Herbert Blake, Dr. Ned Camp and Dr. J. M. Feder.

The Southeastern Surgical Congress will hold its Eleventh Annual Assembly in Birmingham, March 11, 12, 13, 1940 at the Tutwiler Hotel. An interesting program has been prepared. Some of the papers appearing on the program are as follows: The Diagnosis and Surgical Treatment of Carcinoma of the Larynx by Dr. Edward A. Looper of Baltimore; A Simple Technique for Glass Ball Implantation Following Enucleation of the Eye Ball by Dr. R. O. Rychener of Memphis, Tennessee; Dysfunction of the Thyroid Gland as a Cause for Premature Old Age by Dr. James K. McGregor of Hamilton, Canada; Breast Tumors. Moving Picture in Color, by Dr. T. C. Davison, Atlanta, Georgia; Prostatic Disease With a Special Reference to the Various Causes and Types as well as Their Treatment by Dr. Roy B. Henline of New York City and The Treatment of Fractures of the Neck of the Femur by Internal Fixation with Four Adjustable Nails—An End Result Study by Dr. A. T. Moore, Columbia, S. C. For information, write Dr. B. T. Teasley, Secretary-Treasurer, 701 Hurt Bldg., Atlanta, Georgia.

BOOK REVIEWS

THE THERAPEUTICS OF INTERNAL DISEASES. Volumes I and II. Supervising Editor. George Blumer, M. A. (Yale), M. D.: David P. Smith, Clinical Professor of Medicine, Yale University School of Medicine: Associate Editor, Albert J. Sullivan, M. D., Chief Medical Officer, Gallinger Municipal Hospital, Washington, D. C. D. Appleton Century Company, Inc., New York, London.

It is generally conceded that the field of internal medicine has become so vast that no single volume work is adequate to cover the most recent developments in a satisfactory manner hence a four volume work such as is contemplated here will be welcomed. The fact that Dr. Blumer will edit these volumes and supervise their output from first to last assures the profession of a most authoritative viewpoint. As is well known there is a great medical school at Yale and the research going on there commands the respect of medical men throughout the world. These volumes however represent the joint contributions of distinguished teachers and clinicians from many of the great universities and hospitals in this country. The time is ripe for greater stress to be given to ways and means for treating sick people. It is certain that a more comprehensive knowledge of Materia Medica and Pharmacology is quite worthwhile now. Volume I centers attention on General Therapeutics and General Therapeutic Technic. Even so simple a matter as the hypodermic injection has been given careful consideration and of course intravenous therapy, blood transfusions, etc., come in for discussion. The great field of electrotherapy has been discussed. The fascinating subject of the vitamins has been well presented. Volume II has been given over to drugs, toxiology and infectious diseases. This is a volume of more than a thousand page and a vast number of drugs have been written up in a very practical way so that the doctor in active practice may refer to them easily. Under the head of infectious diseases some of the best men in the country have written articles such as Longcope of the Hopkins, Musser of Tulane, Paul of Yale, Packard of Trudcare Sanatorium. The first two volumes are highly creditable and the other two will be looked forward to with keen interest.

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*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES, Vol. 23, No. 2, pages 201-206, March, 1939.

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Dr. H. M. Eargle of Orangeburg was elected President of the Edisto Medical Society at its meeting held at the Eutaw Hotel, Wednesday, January 24, for the ensuing year. Dr. A. W. Lowman of Denmark was elected Vice President and Dr. W. O. Whetsell of Orangeburg, Secretary and Treasurer.

Dr. O. T. Alford of Cross Hill has located in Saluda, S. C., for the practice of medicine. Dr. Alford is originally from Birmingham, Alabama. After his graduation from the University of Tennessee in 1929, he practiced in Harlem County, Kentucky, for five years, later going back to his native state of Alabama and thence to Cross Hill eight months ago.

There is a field located in a small South Carolina town open to a young physician who has had and is inclined toward surgical experience. If interested, address XYZ, care of The Journal.

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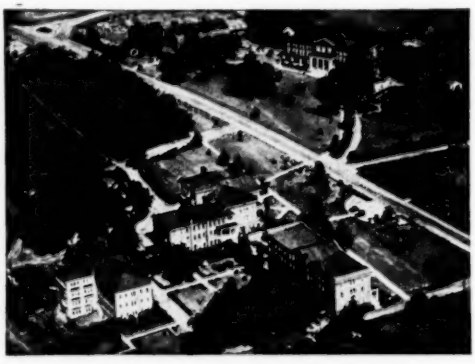

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